

Development of the procurement principles and management system of the «lean production» technology

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Abstract

As a result of continued study as to the Lean Production application, a set of principles was proposed for application of this technology in the machinery production; and a new principle of standardization and flexibility was developed and introduced into such set of principles. In implementing any business processes, this principle allows to focus on standardization of the operations and actions that contributes to the cost reduction unification when implementing these operations. Flexibility enables management of personnel, load of the used equipment, efficient application of the existing facilities (equipment, area). Flexibility of the production processes becomes even more possible and expressed if unified standardized operations exist. Application of this principle was demonstrated on the example, how the machine tool's lubricating-cooling fluid was changed in the production. Procurement management system with a reorder point system was developed; it should be implemented in ZF KAMA, LLC. In the reorder point system, the procurement volume becomes optimal, and it remains unchanged later. The minimum aggregated stock holding and repeated order costs become the optimization criterion. The order is given when the current stock reaches a threshold level. It is assumed here to consider the security stock, which covers the need for the period of alleged delay in delivery.

Keywords

Lean production principles, Procurement management, Reorder point system, ZF production system